

### ABSTRACT OF THE DISCLOSURE

A power supply device incorporated in a vehicle driven by an internal combustion engine including: a first power supply system for driving a vehicle load that converts an output of a generation coil provided in a generator driven by an internal combustion engine into a DC output to supply the DC output to an electrical load or electrical loads in the vehicle; and a second power supply system for driving an external load that converts an output of another generation coil provided in the generator into a DC output, then converts the DC output into an AC output at a commercial frequency with an inverter, and supplies the AC output to an external load, wherein the inverter is operated as a DC-DC converter to supply assisting power from the inverter through a switch to the first power supply system, when the output of the first power supply system is insufficient.

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